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ABSTRACT

The four papers included in this publication provide an overview of the movement toward computer-based alternatives to library card catalogs. Three of the papers were presented at the 1978 Association of Research Libraries (ARL) membership meeting; the fourth provides an introduction to the volume. The introductory paper, by Richard Dougherty, describes the results of an informal survey of directors of ARL libraries, which asked whether they had decided to close their card catalogs and adopt the Anglo-American Cataloging Rules II (AACR II), what transitional planning had been accomplished, whether resistance was anticipated, and what strategies would be employed to gain support from campus administrators. Joseph Rosenthal's paper also reviews planning from a managerial perspective. He considers the use of computer output microform (COM) catalogs, authority control systems, and completely machine-readable files. An appendix to Rosenthal's paper provides an example of a 1977 planning document from the University of California at Berkeley. The third paper, by Robert H. Blackburn, describes experiences at the University of Toronto, where the main card catalog was closed twice, once in 1959 and again in 1975. Finally, H. William Axford considers the implications for ARL directors of freezing the Library of Congress (LC) catalogs, particularly in regard to reactions from faculty and library staff. (ESR)

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Freezing Card Catalogs

A Program
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PREFACE

The three main papers in this publication were first presented May 5, 1978, as part of the 92nd ARL Membership Meeting in Nashville, Tennessee. ARL viewed this "Freezing Card Catalogs" program as an opportunity to bring the directors of large research libraries up to date on the nationwide movement toward computer-based alternatives to our present card catalogs. The presentations were designed to give ARL directors insight into the administrative problems they might encounter as they plan to freeze their catalogs, persuade their institutions to go along with the idea, and actually bring alternative catalogs into being. Although the appendix to Mr. Rosenthal's paper does outline some of the more specific questions that must be answered, this publication is, basically, not a discussion of the technical requirements of automating bibliographic processes.

The papers by Messrs. Rosenthal, Blackburn, and Axford were actually presented during the May 5 program. Although Mr. Dougherty coordinated that program, his chapter was not presented at the meeting. We have included it as an introduction to this volume because of the thought-provoking context it provides for the other papers.

To some extent, this publication brings up to date the presentations in The Future of Card Catalogs, ARL's April 1975 publication based on the program at the 85th ARL Membership Meeting in Chicago. Like the contents of that earlier publication, the papers in this book which were actually presented at our

92nd meeting will be included (along with comments of a reactor panel, and a general discussion by the ARL membership) as part of our regular series: Minutes of the ARL Membership Meetings. The Minutes of the 92nd Meeting will appear in August 1978, but, because of the degree of interest expressed, ARL is issuing these four papers first as a separate publication.

James Beattie
ARL Research Specialist

June 22, 1978

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INTRODUCTION

CLOSING THE CARD CATALOG: A SURVEY ON THE STATUS OF PLANNING IN ARL LIBRARIES

By Richard M. Dougherty

The decision of the Library of Congress to close its card catalogs and adopt AACR II on January 1, 1980 will affect research libraries in many ways. The operational implications are just beginning to be understood, and it is becoming evident that the adoption of a new cataloging code could cost the nation's research libraries millions of dollars. Current uncertainty about what the changeover will require was pointedly depicted in the title of an article which appeared in the Chronicle of Higher Education, "A Ticking in the Card Files." Each ARL library director is confronted with an extraordinarily complex bibliographical problem for which there seems no facile solution. Even smaller libraries will not be spared, for they too will experience increases in card catalog maintenance costs. Will the benefits of the new code be worth the price? No one seems to know. In the meantime, research libraries must gird themselves for a period of unsettling transition.

In order to gain a better sense of the current status of planning, an informal questionnaire was distributed to the directors of ARL libraries. Each was asked to comment on the following issues:

1. Whether they had decided to close card catalogs and adopt AACR II

2. What planning had been accomplished to prepare for the transition

3. Whether resistance was anticipated from faculty or staff groups, and

4. What strategies would be employed to gain support from campus administrations.

In all, sixty libraries responded, most with thoughtful and some with detailed descriptions of what they had accomplished. Some also provided insights on what the future might hold. The survey results indicate that planning is well advanced in about 25 to 33 percent of the libraries that responded. At the remaining institutions, planning activity can be charitably characterized as preliminary or, more realistically, as just getting under way. It apppears that most libraries are still in a stage of problem identification rather than problem resolution.

The majority of respondents see no alternative to closing card catalogs and adopting AACR II in concert with the Library of Congress. Only a few directors indicated that they did not plan to close catalogs. These libraries, it was assumed, will adopt a policy of superimposition, interfiling new headings into current card catalogs. Libraries that do not adopt AACR II must anticipate certain consequences, which were described by one respondent as follows:

> In a manual mode, the only possible alternative for our library is not to accept AACR II and to continue our catalog in its present form, using AACR. In reality, this option means that virtually all of our cataloging will be original,

> with economic consequences that are staggering. It also means that our bibliographic data will not be compatible with the growing national data bases, which will impact ILL transactions and any endeavors aimed toward resource sharing.

The majority of those who plan to close card catalogs intend to adopt some form of computer-output-microform (COM) catalogs. A few respondents plan to replace card catalogs using a combination of COM and on-line catalogs. Several directors noted that they will start an interim card catalog until a new form of catalog can be implemented. It had been anticipated that more libraries would deploy new card catalogs, but only a few directors proposed this alternative. Several respondents intend to take advantage of existing circulation software packages to provide users with author, title, serial and on-order information. These libraries currently have available computer power sufficient to consider seriously the linkage of catalog access with circulation systems.

Several respondents plan to use their OCLC archival tapes to construct or upgrade current data bases to conform with AACR II. This strategy, however, is totally dependent upon the availability of a software package to permit such a conversion. Unfortunately, there is no reason to be confident that such a package will exist at the time the Library of Congress adopts the new cataloging rules.

The most frequently cited problem was the lack of an authority control system to allow libraries to

link old catalogs with new, and to upgrade existing MARC records. Some respondents believe that old and new catalogs should be linked; others are willing to discard this requirement. Among those who cite the need for authority control, there seems to be no agreement as to exactly what is required. There seems to be a general faith that a system will be available to libraries in 1980.

A matter related to authority control is record conversion. Will a library convert restrospective records, and, if so, how will this be achieved? Many libraries are undecided about whether they should attempt conversion, and, if so, what proportion of records they should convert into machine-readable form. There is also the question of who should do the actual work: a local library, commercial agency, or a library consortium. A group of Canadian libraries reported special funding to underwrite a conversion project. Other libraries expressed the hope that a project might be sponsored by the regional network of which they are a member.

Libraries that plan to adopt COM catalogs were not asked to provide specific details on equipment, format of records, strategy for file construction, costs, availability of space, etc., so that no reliable picture of planning emerged. Based on personal observation, however, it is safe to predict that detailed planning still lies ahead for most libraries. Considering the task, it would be advisable for libraries to begin work as soon as possible.

Libraries must question the advisability of continuing card catalogs because of spiralling cata-

log maintenance costs. One respondent framed this issue very clearly:

> A significant amount of staff, equipment, and space is required to maintain card catalogs. In an analysis of three large academic libraries, it was determined that 22 percent of the total cost of cataloging goes into the card catalog and its maintenance. The factors involved include: typing (and/or inputting), revising and producing catalog cards, sorting and filing the cards, sorting and filing the cards into catalog cases, purchasing card stock and catalog cases, replacing worn and missing cards, correcting entries that are changed or incorrect, and shifting cards and relabeling drawers during expansion. The size of the card file is a factor in the cost of maintenance. It is more difficult to file an entry into a large catalog, where there are many similar entries, than into a smaller, less dense catalog. (Filing a card under "Jones, Edward J." will probably take longer in a file where there are 200 other entries under "Jones," than if there are only 10 others.) Furthermore, as changes in entries occur, a greater number of cards need to be pulled and revised to update the catalog. This makes a large catalog less responsive to change and more expensive to maintain.

Library administrators are becoming conscious of the high cost of maintaining card catalogs. As already noted, libraries that do not close card

catalogs will have to interfile cards under two sets of rules. As more entries change, the problems of entry linkage will proliferate. One respondent described the possible long-range implications as follows:

> The resolution in a single integrated card file of the resulting conflicts between existing and new forms of names and subjects will be beyond the capacity of the catalog maintenance function in any research library. Few, if any, research libraries can handle the level of catalog maintenance which already exists.

Many problems besides authority control and record conversion costs were cited. Rather than discuss each in detail, we present only a sampling here in order to stimulate further thought:

1. Should a library close or freeze its catalog by date according to when a title is cataloged, or by date of imprint?
2. What steps need to be taken in order to reconcile local shelf lists with changes that the Library of Congress might make in its shelf list?
3. How will a library process sets, analytics, added volumes, and withdrawals, for material already in the collection?
4. How can branch catalogs be coordinated with those in the main library?
5. How will a library display materials published in non-roman alphabets?

6. How will subject headings be accommodated? This is particularly important to libraries that plan derivatives of existing automated circulation systems.

7. How will a library that continues its card catalog keep abreast of Library of Congress changes once LC achieves the capacity to update and change subject headings automatically?

8. How will serial records be controlled? What special problems will the new rules create?

Resolution of most bibliographical problems will fall on the shoulders of technical services staff. Directors may be conscious of decisions. Some may even participate directly in some of the detailed deliberations, but, for most directors, the major concern will likely be how to create an environment hospitable to change, and how to obtain the resources necessary to accomplish an orderly transition.

Most respondents did not express alarm about possible costs. This was surprising, since no one knows what it will cost to either close or not close card catalogs or to adopt or not adopt AACR II. Since the cost implications are almost infinite, it seems reasonable to assume that a library would want to know something about both costs and the amount of money that will be available. Knowing what resources are available is important, since the final choices will be largely determined by the availability of funds. Nevertheless, fewer than twenty

libraries singled out "cost" as a particular area of concern. One director was particularly candid about costs, saying that his library would not close its catalogs because there was no prospect of obtaining the necessary funds.

Only one library cited the high cost of planning. It was assumed that this respondent was referring to the high cost of staff time expended by those involved in planning. Two respondents expressed some unease over the fact that costs were such an unknown factor. One library has given considerable thought to cost, because its comments were very specific, citing the high cost of telecommunications, terminals, and COM equipment. Only a couple of respondents cited the high cost of data conversion. Even the majority of directors who indicated an intention to convert records failed to cite cost as a possible constraint.

Many libraries that adopt on-line or COM catalogs must rely on campus computer facilities for support. Therefore, the cooperation of campus computer centers will become crucial. Few respondents reflected much uneasiness about this, but two or three directors recognized their potential vulnerability in this dependence. In two instances, there were questions about the extent of a computing center's commitment. The need to obtain a firm commitment from campus computer centers is important, because the computing power necessary to support an on-line library catalog may be considerable.

The cost of closing catalogs must be balanced against the cost of not closing catalogs. Without

any opportunity to analyze the new rules, one can only speculate as to what these costs might be. It has been reported that as many as 49 percent of existing catalog headings could be affected by a changeover to AACR II. Although one can only guess, it is reasonable to speculate that cataloging costs could escalate by as much as 20 to 35 percent, exclusive of increased card catalog maintenance costs, if a library decides not to adopt AACR II.

Are faculty ready for the changes ahead? If one is willing to extrapolate from the responses, there is almost no apprehension about possible adverse faculty reactions. One respondent did caution that the card catalog is a symbol of humanistic scholarship, and he feared that some faculty might feel threatened by its loss. The degree of opposition may depend on the prevailing campus climate, and the effectiveness of the library's educational program. One director observed that his community was, by and large, totally ignorant of what was about to take place. Another reported that the faculty and administrative reactions had so far been mixed. As one read the responses, it was tempting to attribute the absence of faculty reaction to a lack of understanding or awareness of the issues. It appeared that closing card catalogs had not penetrated the consciousness of most campus constituencies.

Several librarians questioned the timing of the Library of Congress' proposed actions. They believe that LC should be asked to defer its decision to adopt AACR II. These views stem from the fear that libraries cannot be prepared by January 1,

1980, because the complexity of the task is just too enormous.

IN SUM

Since becoming involved with the topic of card catalog closure, I have become very conscious of the details involved. ARL libraries are particularly vulnerable to actions of the Library of Congress, and L.C.'s decision to close its card catalog and adopt AACR II raises the age-old question of the Library's role in relation to its national constituencies. This issue is particularly germane, since the timing of the decision is, in part, related to the Library's anticipated occupancy of the Madison Building. LC hopes to create a catalog that symbolically represents a break with past practice.

The intent here is not to criticize, but to focus on a widely-known problem. It appears that the decision by the Library of Congress to adopt AACR II is closely linked with internal considerations. If the new code resulted in improved bibliographic control, there might be some justification for adoption. But, as some professionals close to code development have noted, the new rules may not be better, only different. If the new cataloging code represents no more than a refinement of its predecessor, then the revised code is destined to enjoy a short half-life. It will not be long before another code is developed, one that takes advantage of computer technology. At that time, authority control systems may be available to facilitate conversion of AACR II headings into a newer code. On the other hand, it would not be surprising if

another code did not trigger further conversion costs. The ideal solution, based on my understanding of the problem, would be to convince the Library of Congress to defer adoption of AACR II. Failing this, one possible strategy (suggested by a respondent) which might prove useful is to create an ARL study commission to work closely with representatives from the Library of Congress.

Libraries that plan to employ on-line systems and/or COM catalogs may find themselves still dependent upon card catalogs in 1980. Nevertheless, it seems apparent that the days of the card catalog are numbered. It is also apparent that ARL library administrations will have to devote more time and intellectual energy to bibliographic control and catalogs than has been true in recent years.

PLANNING FOR THE CATALOGS: A MANAGERIAL PERSPECTIVE

By Joseph Rosenthal

Unexpectedly, the federal government will soon become a major source of assistance in helping us face a future dotted with frozen card catalogs. I refer not to Title II-C or to the Library of Congress, but to a hitherto little-known agency within HEW which is issuing a new series of pamphlets and other aids for non-profit organizations. The initial group of items includes the following titles:

-- "How to Reduce your Library Fuel Bills through the Use of Pulverized Catalog Cards"

-- "Remodeling Card Catalog Cabinets into Cathode-ray Terminals, Microfiche Reader-printers, and Planters", and what will probably be a best-selling video cassette:

-- "Retraining Filers for Library Management Positions."

A few cautionary notes and a brief indication of coverage might be in order at this point. Some of the allegations made in this presentation will be unaccompanied by supporting data or back-up rationale, not for lack of either, but because of the constraints of time. Similarly, the statements made should be understood as admitting of exceptional circumstances which can alter some of the conclusions for one or a few particular research libraries. This will often be the case for such libraries as the Library of Congress, the National Library of Medicine, or Linda Hall.

In the next twenty minutes or so, I would like to speak about some of the major ingredients of the bibliographic prospects for research libraries during the next few years, to touch on some of the data which either is available or is needed for planning and decision-making, and to interject along the way a few recommendations concerning both the means for arriving at decisions and (to a very limited extent) the content of those decisions.

An underlying assumption here is that most of the research libraries of North America are either participating in or about to join a machine-based bibliographical processing system.

Let's face it: chronologically divided catalogs constitute a fact of life. With the issuance of the second edition of the Anglo-American Cataloguing Rules and its subsequent implementation by the Library of Congress, the rest of us cannot afford to maintain cataloging practice according to AACR 1. There is, of course, the option of perpetuating a single card catalog while adopting AACR 2, but, as John Rather and others have pointed out, this is simply a masking device for maintaining two sets of files within one physical entity. As time goes on, an increasing number of name headings will be represented in the file under two different forms. The tasks relating to linkage of the different forms of headings are similar, though not identical, whether a library chooses to split the catalogs at the time of implementation of AACR 2 or decides to maintain a single catalog indefinitely.

Apart from the issuance of AACR 2 and its implementation by LC, it is increasingly evident -- in light of present and future technology -- that card catalogs are a costly and relatively ineffective means of bibliographic display for large collections. Cards require large expenditures of manual effort as well as indefinitely expanding space, and the expenditure curve for maintaining card catalogs rises as the size of the files increases. Book catalogs for large collections are likewise relatively expensive to produce, and they present difficult choices between large financial outlays for frequent updating and recumulation or else user frustration over the need to consult multiple alphabets or segments in comprehensive searches. On-line access -- FOR CERTAIN TYPES OF QUERIES -- has a great deal to offer. It is, however, very expensive, it presently offers limited search capability, and generally speaking, it will not be feasible for most research libraries by January 2, 1980.

This brings us to computer-output-microform, a medium which is operationally viable, cheap, and highly acceptable for many users and many types of use. Regardless of the development and implementation of on-line access, COM should be considered as an effective display mechanism answering a considerable portion of bibliographic queries for some time to come. In any case, I believe it will be obligatory as a backup to most on-line installations.

With COM as a practical display mechanism, two other factors -- if available -- would make the closing of any research library card catalog a breeze.

Unfortunately, few of the libraries represented here will have either of these features on hand by 1980. They are:

1) an authority control system providing automated linkage back and forth between bibliographical records and the established forms, together with their associated cross references of names and subject headings embedded in those bibliographic records, and

2) a completely machine-readable file, i.e., a catalog which is already converted into machine-readable form.

I would like to spend a few moments on each of these concepts.

The authority control system, first brilliantly executed in a computer milieu at the New York Public Library, holds the greatest promise of allowing us to overcome the problems posed by the second edition of AACR and, perhaps more importantly, to deal with future changes in cataloging policy and practice over the long haul. Devoutly as we might hope, it now seems certain that the Library of Congress will not have a well-functioning on-line authority control system linked to its machine-readable bibliographic records by the beginning of 1980, and, unless a miracle occurs in the next 18 months, the name headings in the MARC files at LC will, in large measure, not be compatible with forms called for by AACR 2, notwithstanding a valiant attempt at LC to build in the changed form of names manually between now and Day One.

Of equal consequence is the present inability of two of the major data processing utilities, OCLC and BALLOTS, to cope in machine-based or automatic fashion with the problems of linking changed forms of name headings and associated pre- and post-1980 bibliographic records. To my knowledge, neither system has announced a strategy for dealing with this set of problems as it affects the files at Columbus and Palo Alto, much less the consequences for users which will become all too quickly apparent at libraries throughout the United States.

UTLAS, the University of Toronto Library Automation Systems, seems to be well on the way to developing an authority control system, and WLN, the Washington Library Network, is the first major processing utility to offer this capability on-line. Utilization of an effective authority control system should go far toward reducing the unpleasant bibliographic and financial effects we can anticipate with implementation of AACR 2.

As has become evident at the University of Toronto, an integrated file of machine-readable bibliographic records representing nearly the complete library collection has been a significant factor in mitigating the difficulties otherwise faced by users in accessing two separate files. Since the same would be true for other libraries, it would be of some interest to look at the individual and collective prospects for conversion to machine-readable form of retrospective bibliographical data. To begin with, John Knapp has put into a handy little algorithm some guidelines for individual libraries considering retrospective conversion. For libraries holding fewer than

250,000 titles, chances are that quite a high proportion of their titles will already be available in machine-readable form, and a conversion project utilizing access to an existing large machine-readable bibliographic file should probably prove to be cost beneficial within a matter of a few years. The choice is not so clear for libraries holding between one-quarter and one-half million titles, Mr. Knapp believes, and for libraries holding more than one-half million titles, the decision to convert retrospective files on an individual institutional basis is probably not economically justifiable at the present time.

Two important provisos should be attached to these guidelines: First, the economic feasibility of retrospective conversion is changing on an almost monthly basis because of 1) the de facto growth of files, 2) changes in methodologies for inputting and verifying bibliographic records, and 3) changes in the machine/manual labor cost ratio. Second, the economic constraints and costs applicable to retrospective conversion undergo significant change when contemplated on a multi-institutional basis. For example, the major libraries of the province of British Columbia are embarking on massive and comprehensive retrospective conversion. The disposition to act in concert, coupled with a history of favorable relations between libraries and the provincial government, has led to substantial backing for this program. Imaginative library leadership and a history of successful applications of machine techniques bode well for the enterprise, which is utilizing the UTLAS system and its bibliographic files as the basis for conversion.

The UTLAS file, along with those of Blackwell/North America and OCLC, are some of the major data stores which might be given consideration for retrospective conversion programs. Each of the files has its own quantitative and qualitative characteristics, and these, along with the charges for utilizing any particular file, should be very carefully evaluated before any library or group of libraries begins retrospective conversion. After the RECON studies and reports in the early 1970s, the Library of Congress decided that conversion of LC's main retrospective files would not be afforded a high priority. Breakthroughs in the technology of optical character recognition might drastically change the economic parameters of this situation and ultimately the policy of LC. In any event, I suggest that the early 1980s, with a decade of development since the RECON work, might be an appropriate time for reexamination by LC of the possibility of converting its manual bibliographic files.

To return to the more common situation of "no automated authority control system" and "massive retrospective files in manual form", the Berkeley planning document, constituting an appendix to this paper, is intended to give some idea of the number and variety of decisions -- mostly technical -- which research libraries will encounter. Perusal of these questions and decision points (and I do not intend to discuss them seriatim) should make it apparent that a great many of our anticipated problems would disappear with the operational availability of the two features just described: authority control and retrospective conversion.

I would like to go over various categories of data which I feel may be useful, individually and collectively, in making some managerial decisions regarding future systems of bibliographic display and access. To begin with, an account of the costs of present personnel, equipment, space, and maintenance is essential, and extrapolations of these costs, based on the prospect of maintaining the current processing system without significant change, should be valuable in developing justifications for future action.

A listing, description, and quantitative analysis of all present catalogs and other files of bibliographic records (with accompanying growth rates) should be developed, if these data are not already available. If it seems likely that planning will include the possibility of on-line and/or microform displays of bibliographic data, an analysis of spatial requirements and capacities at appropriate public and technical service points and a determination of power and telecommunication needs and capacities will probably be necessary. As an adjunct, cost estimates should be made for bringing present capabilities up to anticipated requirements under a changed system.

Though it may be difficult to obtain, I believe it would be very useful to have some indication of peak load, in terms of queries by staff and other users of the present bibliographic files. If at all possible, we should also try to break this estimate down by type of query and by the length of time spent examining or perusing the file. In other words, how many people are apt to be using the present bibliographic files at any one time? How many of these users are making a "known item" search versus a subject

search? Approximately how long do they spend at the catalogs for any single search?

The Library of Congress has estimated that approximately 49% of the existing MARC records will need to have headings updated to bring them into line with AACR 2. We do not know how to apply this projection to the records of any library other than LC, and we have very little idea how many of the name headings established after 1979 will constitute changes to previously established forms. For example, how many of the name headings encountered in 1980 by the catalog department of a university research library (with a collection of two million volumes and an annual cataloging rate of fifty thousand titles) will need to be reconciled with different forms of names established prior to the implementation of AACR 2? Three thousand? Ten thousand? Twenty thousand? What will happen to the rate of "changed headings" during the first five years of implementation of AACR 2? Will the rate of change decrease, and if so, what kind of declining curve will it follow?

We have few guidelines to tell us whether these changes are likely to have more, less, or about equal impact on monographs and serials. Such information might be valuable as we allocate staff and organize our libraries for processing serial and monograph materials, particularly in view of the serials holdings and intake in a particular collection. For example, Berkeley, which has long prided itself on the massive strength of its serial holdings, 65% of which are entered under corporate body, is particularly concerned with the AACR 2 rule changes as they affect serial publications.

For longer range planning as well as the immediate prospect of closing card catalogs, data enabling us to project the amount and cost of on-line usage of bibliographic files would be enormously helpful. There would seem to be a large number of variables associated with the quantity of on-line queries: size of file, ease of access, nature of the instructional and research programs, training and assistance provided for users, declining costs of computer storage, and other factors. Manipulating estimates of all of these in order to provide a projection which would assist a given library in allocating funds for on-line terminals at its public service stations is probably about as difficult as fashioning a Leontief matrix for the Gross National Product. Nevertheless, even a crude handle on these costs might give us a rough basis for budgetary projections of what will certainly be an important aspect of library service.

In company with any other major change in library operations, the closing of library card catalogs places library administrators at the center of various categories of constituents, and thus poses delicate questions of political and public relations strategy. The cast of characters is familiar: user groups from the academic community such as faculty, students, and staff. Certain other users should be considered as well: borrowers of library materials through interlibrary loan, particularly borrowers from institutions with which a given library has formal network connections. By no means the least significant set of relationships is that which the librarian has with the institutional (that is, the university) administration. In Bill Axford's presentation, you will get the flavor of this particular component of

bibliographical change. Most of you are more than cognizant of the public relations role played by library administrators. This familiarity leads me to limit remarks on the topic to a short reminder: previously established rapport, or the lack of it, with these various constituencies will contribute a good deal of the kind of reception given to plans and proposals affecting our present systems of bibliographic display.

The Berkeley planning document exemplifies an attempt to involve library staff members in the planning and decision-making process. Despite what may seem to some administrators a troublesome inefficiency engendered by dispersed responsibility for decision-making in this area, the widespread participation of staff -- professional and nonprofessional, public service as well as technical service and systems staff -- can and should offer a series of pay-offs. Staff involvement should enhance the intrinsic quality of the planning. In a complementary fashion, the process of planning should lead to increased awareness and knowledge among a large segment of the library staff. Most importantly, it should strengthen the quality of library service during a period of dramatic bibliographic change because of staff commitment to the implementation of plans resulting from group effort.

In the foregoing remarks I have tried to outline some major concerns most of us face in contemplating the closing of library card catalogs. Some of these concerns are institution-specific, but others are general, and could well be addressed by the research library community acting in concert. The investments we have made individually and as a group in our bibli-

ographic files are sizeable -- in almost any league except perhaps AT&T, General Motors, and the U.S. defense budget. Even on an annual basis, the combined costs of our processing operations are in the neighborhood of $200 million.

There may be a few operations that will not be affected by the closing of existing card catalogs, but I would find it difficult to name more than half a dozen. Most technical service functions will feel the impact immediately and seriously. Even more significant will be the reverberations in the area of public service and the costs of those operations.

It is disquieting to realize that, while most of us are aware that the closing of card catalogs will be a major event in terms of costs, quality of service, organization and deployment of library personnel, and reactions from users, we have a very imprecise idea of the nature or extent of the consequences. Lucia Rather of the Library of Congress remarked at LC's excellent presentation at ALA Midwinter that one of the recurrent fears within the group of staff members planning for LC's freezing of its catalogs was that a completely new and unanticipated result -- one for which there would be no obvious solution -- would occur in the period immediately after the official freeze and the beginning of a new era. This could certainly happen. All of us will probably experience a few rude shocks as we pass through the coming retooling of our bibliographical systems.

In retrospect, the kind of managerial attention illustrated by this morning's program should have begun with the decision in the early 1970's to proceed

with work on a second edition of the Anglo-American Cataloguing Rules, or even earlier in the previous decade, when Bill Welsh and others at LC began to examine the possibilities of changing the structure of LC's catalogs.

Despite what we might have done, I am inclined to regard the bibliographical horizon, on balance, as very promising. There is work cut out for us all. With some diligence and imagination, we need not lament -- with sackcloth and ashes -- the closing of card catalogs. Quite the opposite -- the future holds for us the exciting promise of truly opened catalogs.

Appendix To
Mr. Rosenthal's Paper

The following document served as the basis of the most recent planning for bibliographic display at the General Library of the University of California at Berkeley. The first three pages are an attempt to articulate both the assumptions which are commonly held among the library staff and some of the decisions which have already been made. The remaining pages are the charges to individuals, teams, and groups which have been working on various assignments or serving as consultants and advisors in particular areas during the past four months. Instead of listing the names of individuals working on particular assignments, the document gives their positions within the General Library in parentheses.

FUTURE OF THE CATALOGS: The General Library, University of California at Berkeley

A Status Report, And a Basis for Planning, December 1977

The General Library will freeze its present card catalogs at approximately the same time the Library of Congress closes its card catalogs, now scheduled to occur January 1, 1980.

All, or substantially all, of the General Library's data will be either received or input in machine readable form by 1980.

The General Library will be participating in an online cataloging/technical processing system for the forseeable future.

The bibliographic system for the General Library will be developed so as to be consistent and compatible with the Universitywide planning and implementation in this area of library operation.

National bibliographical standards will be followed, in order to facilitate the potential for cooperative and networking activities, and to minimize costs. These standards include:

a) Anglo-American Cataloging Rules as interpreted by the Library of Congress, including Library of Congress established forms of entry, for both print and non-print materials

b) Library of Congress subject headings and classification

c) MARC formats as developed by the Library of Congress

d) Filing rules at such time as a national standard for arrangement of computer-based bibliographic records is developed, and

e) Romanization system.

Various formats will be used for display of data both centrally and locally. No one form -- card, book, microform, on-line display, or listing -- will be used exclusively. The choice of display format will depend on the use intended and the cost of the product, in light of rapidly changing technology. Criteria will be developed to enable the General Library to choose among various modes of display and arrangement of bibliographical data.

For the immediate future, a primary display mode for bibliographic data will be microform. The specific microform format(s) will be related to, and developed on the basis of experience with the present Catalog Supplement and Berkeley Serials Union List. In order to lessen the number of separate displays of bibliographic records, plans should be developed to integrate the display of records for on-order, in-process, and fully-processed library materials.

Records in the machine-based bibliographical file will be displayed under at least the same access points found in the present card catalog system: main entry, name and title added entries, and series and subject

added entries. (It should be noted that not all of these access points are provided currently for all types of material.) The microform display will be based on the premise that full bibliographical data for any record will be found in only one place: this might be either in the register listing of a register/index display, or under a basic access point, as in the microfiche display now used at the University of Toronto. Choices here will depend on evaluation of public service utility coupled with cost considerations.

For a number of reasons, including anticipated adoption by the Library of Congress and the General Library of the second edition of the Anglo-American Cataloging Rules and an increased pace of revision of subject headings by the Library of Congress after 1980, many access points in the new bibliographic display will differ from corresponding headings in the existing card catalogs. The General Library's policy will be based on liberal provision of references in the new catalog system; however, alteration of headings and provision of additional references in the existing card catalogs will be on an exceptional basis only.

Planning for the modes of bibliographic display will be on the basis of anticipating a modest extension of on-line access to General Library bibliographic data during the period from now through 1985. By 1980, on-line access should be available at the presently covered units in the Acquisition and Catalog Departments and in Moffitt Library, in the General Reference Service, the Loan Hall, and in at least one branch library location.

Materials received and processed after the beginning of 1980 will be integrated into the new bibliographic system, regardless of date of imprint. This principle is in accord with the decision of the Library of Congress on the same point, and is intended to lessen the difficulties and costs of processing library materials in the context of two major systems for bibliographic display.

The General Library will expand and improve its program of orientation and assistance to users of bibliographic data which represent the Berkeley collection.

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The next phase of planning for the General Library's bibliographical system will take place during the period January through April 1978. A number of staff members will work either individually or in small groups on particular aspects and problems related to freezing the present card catalog system and changing to new forms of display. For each assignment, a written report will be prepared by the end of the four-month period; these reports should serve as road maps for the implementation period covering the next several years. During the first four months of 1978, all those engaged in these assignments will meet approximately once each month as a group, together with the University Librarian and the Associate and Assistant University Librarians, who, with the addition of the Head of the Catalog Department and the Head of the Systems Office, will act as a coordinating group for this phase of the planning.

As the written reports covering the various assignments are finished, they will be circulated widely in the General Library for comment, discussion, and suggestions for revision. After an appropriate period for evaluating reaction and making requisite changes in the content of the reports, the actual work necessary to build and implement the new bibliographic system will begin.

The following list details the areas of individual assignments and the people who will be engaged in working on them. Questions and issues to be addressed have been prepared for each of these areas and these brief papers should serve as a point of departure for the intensive planning efforts during January through April. There will be, of course, some inevitable overlapping in the various areas; the monthly meetings and the existence of the coordinating group are intended to lessen the amount of duplicative effort.

"Branch" considerations A (Original Cataloger; Assistant Head of large branch library):

Scope extends to catalogs and files other than Author /Title, Subject, Official, Loan Stack Shelflist, Depository, and CSR catalogs.

What should the configuration for bibliographic display consist of in branch libraries and other specialized public service units of the General Library for the period from now through 1985? When should card catalogs in these units cease to be maintained?

What provision should be made for continued access by call number (shelflist)? Should a catalog card con-

tinue to be provided for all branch shelflists? What requirements should be set in order to cease maintenance of branch shelflists in card form?

What opportunities should be provided, if any, for local deviation from basic General Library Cataloging policies (i.e., conformity to and compatibility with Anglo-American Cataloging Rules, Library of Congress practice, LC Subject Headings and classification)? What policies and practices should govern the possibility of branch library additions to a bibliographic record such as (1) additional added entries, including variant titles, additional name headings, variant or additional series, (2) additional subject entries, (3) other information in the form of notes? If any such additions are to be permitted by policy, what specific mechanisms should be developed for submission and review of such data?

To what extent should 'temporary' or 'special' locations be reflected in the bibliographic data base? That is, should the bibliographic data base include and display (1) reserve status, (2) 'reference' status, (3) other special locations? If so, what procedures should be adopted for including these data?

What 'authority' or cross-reference information should be provided for branch bibliographic display? (To be coordinated with work of Links and Authorities team)

"Branch" considerations B (Original cataloger, with liaison representatives from 1) Special Collections 2) Music, 3) Undergraduate, and 4) Forestry libraries):

(Should work within the context of general recommendations regarding branch bibliographic display developed by Branch considerations A team)

What specific policies should be followed for units which now deviate significantly from our basic cataloging policies: Bancroft, Music, Forestry and Forest Products? To what extent should differing practices regarding name and subject headings and classification policy be continued? For each of these units, how should data be submitted to the basic bibliographic file?

For the above units and for Moffitt Undergraduate Library, in what form should bibliographic data regarding holdings of these units be distributed? Should there be any distribution of bibliographic data other than that contemplated for other units of the General Library? If so, what should be provided? (Any recommendations for additional bibliographic products should be accompanied by specifications as to format, content, access points, frequency, and cost estimates)

Record formats and display specifications (Head of Catalog Dept., Head of receiving unit in Acquisition Dept., staff member from Cooperative Services Dept.):

Develop in specific detail the configuration of bibliographic display for the General Library system through 1985.

Assume that the 'new' catalog data will be displayed principally in microforms for public use, but that a

transition over the period from 1980-1985 will occur, with on-line access to bibliographic data increasing substantially.

What specific configurations should be adopted for the microform display? Register/index? If so, what data elements should be provided in the various indexes? What pattern of indexes should be adopted?

Main and added entries and titles
Subjects
Call number

Main and added entries
Titles
Call number

Name headings (personal and corporate)
Topical subjects
Call number
Series

OR, should the microform configuration be based on brief entries under all but one of the various indexes, with one index providing a full bibliographic record?

Provide a recommendation for a specific frequency pattern for the microform display configuration.

Assume the desirability of combining the microform display configuration for fully cataloged materials with records for on-order and in-process items (the categories of records now represented in the Catalog Supplement). Will this be possible? If so, formulate specific proposals for clear user identification of items in various stages of processing. Will the recommended pattern of issuance for this microform display configuration for public use necessitate an additional microform product or set of products for internal (technical service) access? Or should inter-

nal access be based on on-line access to records maintained in one or more processing utilities?

What provisions should be made for shelflist access (a) in the immediate future, i.e., during the period when retrospective bibliographic records are for the most part in manual form only, and (b) on a long-term basis, looking toward the time when most or all bibliographic records for General Library collections are in machine-readable form?

Indicate, with regard to specific recommendations in this area, the degree to which specific aspects of the display formats can be changed with comparatively minor cost burdens and disruption of public and technical service functions, and which aspects (once adopted) should be regarded as relatively fixed, in view of these considerations.

Serials (Head of Serials Dept.; Original Cataloger; Head of Serials Database Input Unit):

Develop the configuration of bibliographic and holdings display for serials in the General Library system through 1985, with particular attention to the following points.

To what extent should information regarding serials be reflected in the bibliographic display for the General Library?

-- Should serials be represented at all?

-- If so, under what access points should they be represented? Main entry? Title? Added entries? Subjects?

-- To the extent that serials are represented, should the representation follow the same pattern as monographs if a register/index format is adopted?

-- Should any holdings information be provided in such representation, and if so, under which access points? Beginning date? Complete holdings for inactive titles?

If a separate display is to be provided for serial information (whether or not some information regarding serials is to be included in the display(s) for monograph items), describe the nature of this display with regard to:

-- access points

-- completeness of bibliographic and holdings information under all catagories of access points

-- frequency

-- microform and/or hardcopy

Describe the relationships these displays bear to files containing serial data now existing in the General Library:

Berkeley Serials Union List

Author/Title Catalog

Official Shelflist

Central Serial Record entering files:

Serials Department
Documents Department
Branch and other locations

Branch card catalogs

In view of what is known regarding the choice of bibliographic utility for the UC library system by

January 15, 1978, recommend steps to be taken regarding the integration or linkage of the Berkeley serials system with a bibliographic utility (BALLOTS or OCLC).

Identify in chronological order, and with estimates of personnel needs and other requirements, the steps to be taken to accomplish the recommendations made above through 1985. Operations should be characterized as 'essential' or 'desirable,' and goals (such as completion date or number of records to be processed on an annual basis) should be stated.

Authority structure and links (Principal cataloger; Original cataloger):

What general and specific policies should be adopted regarding references from variant forms of names and subject headings in and between the old and new systems of bibliographic display? In addressing this point, consider the adoption of AACR 2 by the Library of Congress and the UCB General Library in 1980 and an expected substantial increase in the number of headings to be changed beginning then.

Will the recommended policies be applicable to any form of display for the 'new' catalog, i.e., card, microform, on-line?

What policies should be followed by catalogers regarding the establishment of names and subject headings for the 'new' catalog? In what instances should the 'old' catalog be searched for identical, variant, and conflicting headings? What practices can be adopted to minimize the human effort and cost while assuring adequate bibliographic access to the collection?

For such links as are recommended between the 'old' and 'new' catalogs, what legends should be provided in the bibliographic display? Should the legends explicitly refer users to the 'other' display? Should the legends reflect a time distinction (i.e., "For works cataloged before 1980...")?

What policies should be adopted when records in the 'old' catalog system are modified? Consider modifications based on transfer, change of format (i.e., hard-copy to microform), additions to multiple-volume sets, closing of serial titles, and added copies in different locations.

Non-Roman alphabet records (Head of Special Languages Section in Catalog Dept.):

Present specific recommendations regarding the inclusion, exclusion, and romanization of bibliographic data representing items in non-Roman alphabets acquired and added to the General Library collections in 1980 and after. With reference to particular existing card catalogs, indicate how these policies should affect the maintenance or closing of the card catalogs: specifically, catalogs and shelflist of the East Asiatic Library and the Main Library central catalog system.

In view of anticipated technological and cost developments with regard to representation of various character sets in machine-readable form, set forth guidelines for the General Library's long-range policies in this area. What long-range goals should be adopted regarding separate or integrated files for bibliographic records representing Roman-alphabet and non-Roman alphabet materials?

Public and staff relations (Reference librarian, Undergraduate Library; Assistant to the University Librarian)

List all groups likely to be affected by the changes in bibliographic display to an extent which warrants special attention directed toward informing these groups regarding likely changes, securing feedback and participation in planning, and preparing for effective use of the changed bibliographic system.

Campus administration
Senate Library Committee
Faculty
Graduate students
Undergraduate students
On-site users (in general)
Initiators of telephone queries
Other

General Library staff members:
  Public service
  Technical service
  Other
Institute libraries
Other UC libraries
Stanford

Develop a program, with accompanying chronology, of specific informational and 'public relations' efforts which should be directed to these varioius groups, including:

-- General level of detail and content

-- Format: e.g., verbal group presentation, slide/tape presentation, brochure, graphic posters/signs, memoranda, Faculty Newsletter

-- Means for obtaining feedback, response, participation

Make recommendations regarding people and units to be assigned to this program; estimate costs.

Participate in all public and staff relations activities connected with the bibliographic system planning during the period January through April 1978.

Physical facilities and equipment (Senior Analyst, Systems Office):

Develop equipment, space, building modification (e.g., wiring) needs for the future system of bibliographic display. Include a phase transition to on-line access for a major portion of public and staff access to bibliographic data. Re-study, refine, and verify previous projections of use* under the future system; relate these findings to the needed number of access devices of various types.

What organizational assignments should be made for continuing review of equipment and physical facilities: microform readers, microform reader-printers, on-line terminals, file and display arrangements for microforms (e.g., fiche holders), use justification for additional equipment?

Recommend specific policies for purchase, lease, and maintenance contracts with regard to specific types of equipment.

Develop cost estimates for the period through 1985 for equipment, maintenance of equipment, and building modification.

Liaison with Universitywide (Head, Technical Services; Head, Systems Office):

Maintain liaison and work towards compatibility with Universitywide planning for a UC union catalog system. Communicate budgetary, technological, and networking developments to Universitywide staff members and to appropriate General Library personnel.

Liaison with bibliographic utility (BALLOTS or OCLC) (BALLOTS Coordinator, Catalog Dept.; Analyst /Programmer, Systems Office):

Serve as coordinator(s) between the bibliographic utility and persons and groups involved in planning future bibliographic operations and display in the General Library. Based on the evolving assumptions regarding record format and bibliographic display, develop cost parameters and specific methods for delivery of various bibliographic products, encompassing the bibliographic utility, any other non-UC agencies (such as microform service bureau), UC Data Processing Center, and specific library units and personnel.

Technical/cost Consultants (Head, Systems Office; Analyst/Programmer, Systems Office):

Advise on feasibility and prepare cost estimates as requested by individuals or teams working on various assignments.

Catalog Use Consultants (Two Heads of branch libraries; Reference Librarian; Head, Cooperative Services):

Advise on issues relating to public use of catalogs as requested by individuals or teams working on various assignments. Review working papers for public use implications.

Coordinating Group (University Librarian; Associate University Librarian for Public Services; Associate University Librarian for Technical Services; Assistant University Librarian for Collection Development and General Reference Services; Head, Catalog Department; Head, Systems Office)

TWO YEARS WITH A CLOSED CATALOG

By Robert Blackburn

At the University of Toronto Library we have closed our main card catalog twice so far, once in 1959 and again in 1975. I mention both times because there are some instructive differences and parallels.

First Time Around

Up to May 1, 1959, our Library had collected nearly a million volumes, which were classified in a simple homemade scheme which had undergone so many generations of improvement that it was tying itself in knots and was clearly not a suitable structure for the large expansion which the University could then foresee. In preparing for expansion, the University decided to call in an expert to help assess our future needs for library space. For a consultant we managed to get Steve McCarthy, who at that time was running the biggest reclassification project we knew about.

In the two days Steve was on campus, our chief cataloger found an opportunity to introduce him to our catalog, with its nonstandard filing rules and rules of entry and its local classification scheme which had been authorized by our academic Senate's library committee in 1891 (actually the scheme, had been invented by our first Librarian one weekend after a short visit to Cornell). Steve's report included a strong recommendation that we adopt Library of Congress classification, and we did. This was back in those happier days when a President who liked a report could float it past the academic Senate one evening for approval in principle and tell his librarian the next morning

that there was money to begin a large reclassification and recataloging project. It did not happen quite that easily, but almost.

The reasons given and accepted were the ones we really believed: a new catalog based on standard headings, filing rules, and classification would bring about such an improvement in the efficiency of technical services and in the effectiveness of reader services that it would justify the cost of reclassifying the most active parts of the old collection. It would also justify the inconvenience of having two catalogs and two collections in the stacks.

Reader reaction came mostly from the teaching staff, some of which opposed splitting the stack collections into old and new classes, but the opposition mainly took the form of pleas for certain subjects to be given priority in the queue for reclassification. As far as the two catalogs were concerned there was little reaction from readers, except that we found ourselves explaining, occasionally, why it was not feasible simply to interfile the two. The people most worried about having two catalogs were our own staff, especially the searchers and reader-service librarians, and there was a good deal of groaning when we finally had to drop the reclassification project about half way through because of costs.

The remains of the old catalog, which was closed in 1959 and then dwindled until it was finally frozen ten years later, are still with us, off in the corner, but, if we had not closed it when we did, I do not think we would have got through the expansion of the past twenty years as well as we have.

Second Time Around

By 1975, we had card catalogs representing close to four million volumes located in the central library (which is divided between two major buildings), about 30 departmental libraries, and two suburban colleges. Most of these were represented in the "new" central card catalog, but some only in special files, or the old catalog. The split which occurred when we moved into the new Humanities and Social Sciences Research Library in 1973 left the Science and Medicine Library without a proper catalog. The two suburban colleges, founded in the early sixties, had limited their libraries to teaching collections on the understanding that their daily delivery service would be assisted by their having copies of the central card catalog. In spite of the number and variety of card catalogs we were supporting, the University still had inadequate bibliographic access to its collections. Our University was not unlike most other large, oldish institutions in that respect, but we did have one additional problem that was fairly unusual. We had about 1.2 million machine-readable records.

Back in the early sixties, we began to have what might now be called presentiments of Baumol and Marcus, and we began converting our records into machine-readable form. We saw a mechanized file 1) as the best hope of integrating our various catalogs some day and of making them more widely available, 2) as the essential basis for mechanizing many of our operating routines and eventually superceding most manual records, and 3) as a means of tuning in on future methods of exchanging information.

By the spring of 1975, the converted records covered both our old and new catalogs. About that time, we also began making full MARC records for our current cataloging and using them to produce catalog cards. In our budget planning, we recognized that we were reaching the point at which we could no longer keep building a complete card catalog as well as a machine-file that was being used only for special purposes. To begin preparing for that time, in February 1975 we appointed an Implementation Team for Data Base Integration and Application, under the chairmanship of the Systems Librarian. Data-base integration was necessary because our file conversion had begun in 1965, before the Library of Congress and the National Library of Canada had announced even their initial MARC formats. Consequently, our conversion project had gone through an evolutionary process and had given us at least five separate files which had strong family resemblances but were not really compatible.

Then, in June 1975, the University's budget letter notified us of a five percent cut in operating funds for the following May. The time had come to make a choice between our card catalog and our data-base. We decided to close the card catalog, and we had just under twelve months in which to do it. We did not know of any academic library of our size having done such a thing before, but we were prepared to move in what seemed to us the right direction, even if it meant we would have to break a new trail.

Deciding and Preparing

In 1975, we treated our decision to close the catalog entirely as an internal management decision, based on our need to meet a cut in the budget. There

was input from Library staff, because by that time we had our internal Budget Committee, which includes non-administrative staff from each library division as well as our senior managers. The decision was incorporated into the notes of our final budget submission, and, in this form, it received the blessing of the University's governing body. At that stage, there would have been no point in either consulting other parts of the University or making any general announcement of the closing until we had had time to work out the details of our alternative to cards.

Obviously, there was a great deal of planning and preparing to be done, and all parts of the library operation would be affected by the outcome. Fortunately, our Implementation Team on Data Base Integration and Application had the right mix of expertise among its members and had shown that it could work as an effective team on this kind of problem. So, its assignment was extended or particularized to include preparation for the orderly closing of the card catalogs and the provision of an adequate and economical computer-based alternative.

As the Implementation Team began to identify the specific tasks to be performed, it began to set up subcommittees with the necessary talents and with deadlines to fit the timetable. Eventually there were seven such subcommittees. The Team was also advised by three advisory groups, each appointed by one of the advisory councils which exist in the three operating divisions of our Library.

The Implementation Team explored, recommended, and carried out plans within the boundaries set by

existing policies and budgets. Its work made necessary a whole series of complicated decisions which had to be made before the work could proceed. As Chief Librarian, I already had a large staff Advisory Council to consult on matters of policy, and I established a smaller Planning Decisions Group to help me deal with other questions raised by the Implementation Team on Orientation and Training, whose mission was to plan and carry out a program designed to inform the Library's staff and users and (as one of its terms of reference stated) to minimize the spread of wild rumors. The object of this apparently complex organization was 1) to ensure that the outcome would be based on wide discussion of the best information we could muster and 2) to meet the deadline.

We had said that our long-term objective was a fully-automated on-line catalog, but it was reasonably clear from the beginning that our immediate alternative to cards would have to include some computer-output microform. We knew it was not yet practical to have our full data-base on-line, and we did not know how the users of our Library would react to the idea of an on-line catalog. We did experiment with this last point during the year, by mounting four public terminals with direct access to an abbreviated shelf-list of our LC-classed collection. We found that many readers -- professors as well as students -- used this particular on-line file with enthusiasm and wanted little or no help beyond the dozen lines of printed instructions. In fact, the response was so positive that, right up until the final estimate of costs, we did plan to include some on-line component in our first alternative to cards.

We had had enough previous experience with book-form catalogs made from computer printouts to know something about production time, duplication costs, and update timetables, and to know that we did not want to go that route with the full catalog, though paper printout might still be a possibility for certain limited puposes. But whatever hard-copy or on-line components might be included, it soon became clear that COM would have to be the mainstay in our initial alternative to cards.

Naturally, any talk of an alternative to the card catalog raised cries of dismay and panic in various quarters and some predictions of doom. However, we had decided to close the catalog. By our definition, closing meant what it had meant in 1959: to stop making additions and to remove and discard full card sets when any change was made to a record by way of correction, added copies, transferred copies, and so on. That is, the catalog would remain correct, though shrinking, and all changes and additions would be reflected only in the new computer-based products. This is a definition which is now being reconsidered, but it is the one on which we have proceeded. Of course, we had to go on adding cards for categories of records which were not yet in the data-base, such as humanities serial holdings and union-catalog entries based on reports sent in by other campus libraries. Naturally, the whole card catalog would continue standing in its usual place, without any chains or padlocks on it, and we thought most people would continue preferring it for a long time as their first place to look.

Because the COM catalog was to be our new mainstay, we wanted it to be as complete and easy to use as we could make it, and we wanted it to have at least some advantages over cards. For reasons having to do with security, distribution, and cost, we chose to use both film and fiche. I will not attempt to recount the debates about whether and how to divide the COM catalog: in the end we agreed to have four separate divisions, so that we could watch and see which parts were actually used most often. We decided that the full bibliographic record (FBR) would be arranged by call-number, thus providing a kind of classed catalog which had not been available to the public in our cards. In addition, there would be three indices: one for authors, one for subjects, and one for titles. The initial letters in the names of these four files happened to provide the acronym FAST. This could be taken as a good omen, and eventually it was used as an acrostic in some of our publicity.

The number and distribution of microcatalog sets also represented a difficult question. For our Library departments, having their own sets was one of the best selling points for COM. The same was true for all our branches and departmental libraries and the other libraries attached in any way to the University. We were eager to take advantage of this fact, since it represented a real breakthrough in bibliographic access, but we had to consider how many sets would really be used to good effect and how many we could afford to supply and maintain? Eventually, we agreed to have 32 catalog stations in those parts of the library system which are administered within the

budget of the Chief Librarian. These stations varied from large ones with up to 17 viewing machines down to small, single-machine stations.

For other established libraries within the University, we offered one fiche-viewer each as a free introductory offer, if they would undertake to buy copies of the fiche catalog at cost. By the end of the first year, there were 35 such additional catalog stations on campus, making 67 in all.

Some Discoveries

We ceased producing catalog cards at 5:00 p.m. on June 30, 1976, just one month after our initial target, and we began receiving COM catalogs eight weeks later. We recognized in advance that there would be imperfections, and, to disarm potential critics, our publicity materials invited them to help us by reporting any mistakes they found. Many users responded to this invitation with real enthusiasm. Their reports included not only the anomalies which resulted from faulty input, bugs in the program, production flaws, or differences in coding which had not been eradicated in the mechanical integration of our files, but also the spelling errors and other oddities which had gone undetected for years in the card catalogs. It seems that mistakes, along with other kinds of data, are more easily scanned and spotted in a sequential column than on cards.

As errors were corrected, they were fed into the monthly cumulative supplement. At the same time, we were beginning to put some new categories of records into machine form, such as our special listing of government publications These too went into the

supplement. These were all in addition to our regular catalog input and adjustments, and, once they had been put into the supplement, they were repeated each month. After the third month we decided to economize by omitting the blank line which we had allowed between entries. Later we decided that minor corrections which did not affect filing should not be fed into the supplements, but displayed for the first time in the second full edition. Even so, our total production for the year overran the original estimates by about 60 per cent, and, in the second year, we have gone to two-monthly supplements.

Perhaps the rapid expansion of our supplement was caused by circumstances peculiar to our library at that time, but I suspect that any library, at the time of closing its card catalog, may have a similar experience and should allow for it.

The Closed Card Catalog

The supplements were related rather closely to the card catalogs because, as I mentioned earlier, we had decided that sets of cards were to be withdrawn when any change was being made to a main entry and the updated entry was to go into the supplements. This meant withdrawing about 2,000 cards a week, and this has created some problems. Readers who were still using the card catalogs sometimes missed cards which they knew they had seen before, and they complained. Our effort to close the card catalog down systematically, keeping it correct by withdrawing obsolete records, is not appreciated by the readers and is costing staff time. The whole question of card files is under review again, and our handling of them is likely to change.

Costs

Concerning costs, it is very difficult to know what to say. Certainly we have no clear-cut before-and-after comparisons to make, no detailed accounting of a sudden shift from manual methods to full mechanization. We have mechanized the access to the catalog, but, for bibliographic control, we still use manual files. We are still working on the card catalog itself, closing it down, still adding certain things to it, still keeping up some special card files, and still planning to convert some of them to machine form. And of course, we are still learning how to reduce the cost of running the COM catalogs and how to use them more effectively. There are so many complicated interactions between the COM catalogs and other changes which have been made (or are in process) that it is not possible to say precisely what the COM has cost or how many dollars it has saved or will save.

We can, of course, put a price on certain things. As a very minor instance, the Reference Department eliminated one of the two telephones at the catalog information desk, because the main catalog is now available in so many other places. A more significant saving arose out of eliminating the production of something like 400,000 catalog cards a year. This process had been automated for some time, so the saving was simply transferred to a different kind of computer output. Another sizable saving grew out of the fact that cards which are not produced do not have to be filed. This fact was so obvious so early that it typifies the special management problem posed by savings which involve people. Naturally, the staff in our filing section began to feel rather unwanted as

soon as our intentions were known, and competed for transfers to any suitable openings which occurred in other parts of the Library. As transfers were made, we had more and more of our filing done by student help and other part-time staff. We had assured the regular staff that those left in the section would be offered equivalent jobs elsewhere in the system without loss of pay and with whatever retraining was needed. When the time finally came, there were only three filers left to be resettled in this way, and their retraining would count as a minor cost of the micro-catalogs.

On the basis of estimated throughput and a year's experience, our Library's planning and budget committee has fitted the various aspects of COM production into a tight automation budget which includes several other operations and preparations. For COM production, our second-year expense is $156,000, about eleven cents times the number of shelf-list records we shall have by the end of the year. To summarize the first-year costs, I can say that we absorbed a five percent cut in the total operating budget of the Library, closed our card catalog, opened a full-scale COM catalog and adjusted to it, distributed it on film or fiche to 67 stations in the campus library system, and survived.

Orientation Of Users

Adjustments to the idea of COM catalogs began as soon as we decided to close the card file. It began with the staff, especially those who might feel their jobs were threatened, and all those who could not really imagine life without a foundation of three-by-

five cards. We put the early announcements into our weekly staff news sheet, but soon realized that something more was needed.

About eight months before the target date for the great change, our Implementation Team for Orientation and Training began to issue a special news sheet to the staff whenever there was progress to be reported. The Team's publicity built up to an hour's meeting with all library staff (in four sections) to review the whole project and to prepare the staff for its first chance to use samples of our catalog on fiche and film. Training sessions were held for a number of people who acted as instructors, and those individuals in turn gave practical instruction to the whole staff in groups of five or six. I went to one of these sessions and began to wonder whether our information program had really made the whole business seem too formidable: When the participants finally got their hands on the viewing machines, everyone seemed amazed and relieved at how simple it was.

The same Implementation Team worked out a schedule of publicity directed toward library users, carefully planned to give out basic information and not to create either alarm or unreasonable expectations. When one major teaching department showed signs of becoming restless, two members of the team visited and offered reassurance. We sent two special mailings to all teaching staff, placed a few articles and notices in the University's weekly bulletin, and ran a few paid advertisements in the student newpapers. There were also signs, posters, leaflets, and an audiocassette which could be mounted in strategic spots to offer users a short canned lecture. There was also a

very handy little instructional flip-chart designed to stand on the table beside the viewing machines. Although these things could be planned in advance, some of them had to be produced very late in the game, when details of the text could be filled in. Distributing and mounting them was an essential part of the action as the microcatalogs came into use, and it helped to bring about a smooth transition.

Acceptance of COM by Library Users

We thought we knew something about the difficulty of introducing new patterns of use, and about the degree to which signs, announcements, and leaflets are usually ignored. We were therefore braced for a sharp hand-to-hand engagement of explaining and training when our readers faced COM catalogs for the first time. Our staff girded for the attack, but it never came -- most readers seemed much less aware than we were of the problems, or at least less concerned, and most of them took to the new catalogs quite naturally. Of course, there were a few people who despise machinery and always will, but it was soon apparent that the card catalogs were nearly deserted. When I visited the undergraduate library, I usually saw ten or twelve people standing at the COM catalogs and one or none at the nearby card catalog, which was almost as up-to-date and should have been easier to use because it was limited to the holdings of that particular library.

In the humanities and social science research library, the majority of users switched quite quickly to COM, even though it lacks the campus union catalog. The complaints we received from readers were less often about the catalog itself than about its

distribution. For instance, a reader complained that the fiche viewer in his part of the stack, up on the thirteenth floor, was often in use when he wanted it and he was sometimes obliged to walk down a flight to use the mahcine one level down. He seemed to have forgotten that, until a few weeks earlier, there had never been any catalog in the stacks. Perhaps one of the hazards of starting a microcatalog is that it creates demand which can never again be filled by card catalogs.

Use Patterns

One pleasant surprise, which became visible quite early, was that the circulation of our "old class" books jumped to about three times its former level, as a result of the "old" and "new" entries being interfiled in the COM catalog. Apparently a majority of readers had not been bothering to look at the "old class" part of the card catalogs. This may be of interest to anyone who has thought about re-starting his card catalog.

Queues at some machines and neglect of others soon showed that we had been wrong in some of our preliminary guesses about the popularity of various sections of the catalogs, and we adjusted the distribution as quickly as we could. That is, we changed the mix of indices, or moved machines, and even added a few machines.

To help us lay plans for the second edition, we felt the need for more information than we could obtain from casual observation. During the first five weeks of the spring term the staff thus conducted a

study of the microcatalog environment. Some hundreds of questionnaires completed by the users of catalogs were analyzed, users were interviewed, some staff recorded their own uses of the catalogs, and the use of particular stations was observed and recorded over sample periods. Thus, we learned something about what users were really doing as well as what they thought they were doing. There was not time for a study to be carried out with great scientific elegance, and a more comprehensive study is now being planned, but we did obtain helpful answers to a number of questions which were important to us just then.

We found that simple alphabetic telephone-book filing pleased the readers. Even library staff, accustomed as they were to traditional library filing, indicated little or no difficulty in using the new order.

Users tended to overestimate their use of author and subject as access points and to underestimate their use of the title index. The amount of information given in the indexes was sufficient to satisfy most searches by library staff and by others. The title index, which includes all titles, is used about half again as much as the subject index. There was variation from station to station, but, in more than 8,000 recorded uses the traffic at the three indexes was in the ratio of 35 (author) to 32 (title) to 17 (subject). On this basis, the number of subject indexes at the larger stations have been cut down.

Use of the FBR (full bibliographic record) was surprisingly low and was mostly confined to library staff. Again, the number of copies has been reduced

at some stations. Although we made full sets of the fiche catalog available to departmental libraries across the campus at a somewhat subsidized rate in the first year, we have charged them a more realistic price in the second year, based on the full add-on cost of extra sets. However, they have also been allowed to limit their orders to the particular sections they want. This year they pay $275 for the full edition plus $100 for the supplements, but quite a few departments have ordered only certain parts rather than full sets. If we had made copies free to all University departments, then all would expect to receive a full set of everything. The charge has proven a simple way of matching the demand to the budget, and I do not think it has inhibited distribution unduly. For instance, one teaching department, which has no departmental library and is just across the street from the central library, has bought its own viewer and a full set of the fiche catalog.

The greatest surprise, for many of us, was the light use of the supplements. We knew, of course, that use is spread over the whole collection and is not concentrated on the acquisitions of the last few months, but we were still exceedingly concerned about keeping the catalog up to date. Although the supplement was the very first microcatalog to be mounted for use, our survey five months later showed that many of our readers were unaware that it existed, and those who did know about it used it only occasionally or never. It accounts for less than 3% of their use. Hardly anybody used it except the library staff, and, in the survey, it accounted for only 17.8% of their use. For budget reasons we have reduced the supplement to a two-monthly cumulation, and this would still

appear to be more than is needed by most of our readers. On the other hand, our staff members who need up-to-date records in their business would prefer to have immediate access through a computer terminal rather than having to wait for any kind of printout on paper or film, and it now appears that the need for this kind of up-to-date access is far more localized than we had thought.

The second year of full-scale operation, with most of our readers quite accustomed to microcatalogs, has confirmed most of our initial impressions. It seems to me now that the wide distribution of COM supplements may not be the most efficient way to provide short-term updates. It seems to me that the observed need could be met more effectively by having the last year or two of additions and changes on-line, available to library staff mainly through terminals, which would be available in any case for other purposes, and available to the public at only a few strategic points in the library system. Long-term updates for wide distribution will still, as I see it, require periodic new editions in microform. The precise form which this combination should take, the practical economics of it, and precisely how it should be brought about still require a great deal of analysis and planning, but, after two years' experience with COM, we can proceed toward it with greater confidence in the outcome.

Being the first large library on this continent to have a full COM catalog has posed a number of problems. One that seems to be growing is the amount of senior staff time burnt up on invitations to speak at meetings from coast to coast and in receiving visitors

who brave the northern wilds to see what we have done. I take this occasion to tell you that we now run a COM seminar for visitors the last Friday morning of each month, and anybody who wishes to visit us is especially welcome on that day.

Summary

Having closed our main card catalog twice, in 1959 and 1975, and relying now for access on a computer-based microcatalog of our whole collection, we face the same problem as other libraries in connection with AACR2. Shall we close a third time and start over again, or what shall we do? No matter what any of us do in 1980, we shall face the same problem again with AACR3.

In pondering the problem, I like to keep the following discoveries in mind:

(a) Ninety percent of readers who use our catalogs do not go beyond the basic data they find in the indexes.

(b) Use of the subject index is lighter than we used to think, and only about three percent of our readers look for recent additions to the catalog.

(c) Contrary to what they think and what we used to think, our staff and our readers use the title approach almost as often as the author approach.

(d) Our readers make better use of a COM catalog in which two entry systems are interfiled than they did of two separate card catalogs.

(e) Professors and students do not really understand or love our catalogs in any form, as we do ourselves.

(f) Whatever decision is made should be treated and presented as a management decision based on a careful appraisal of costs, technical feasibility, and effectiveness, and should not be treated as a political decision.

IMPLICATIONS FOR ARL DIRECTORS OF FREEZING THE LIBRARY OF CONGRESS CATALOGS

By H. William Axford

When the Library of Congress freezes its card catalogs and implements AACR II approximately two years hence, the era of the automated cataloging data base will finally have arrived. Many might argue that this landmark in the history of librarianship occured some five or six years ago, when OCLC went operational, but the fact remains that, for most libraries subscribing to its services, OCLC serves primarily as a source of machine-produced catalog cards. It is not a means of escaping either the costs of maintaining card catalogs or the physical and intellectual limitations they impose on students and scholars. Given the attitudes underlying this situation, the crucial question for the future is, "How many ARL directors will see in the 'rosy fingered dawn' emanating from Capitol Hill unparalleled opportunities for a resurgence of the kind of leadership that established the ARL Library Director as an educational force on campus during the great period of building that began after World War II, and how many will prefer to doze into the new era, wrapped in the nostalgic embrace of yesterday's sunset?"

An overly dramatic assessment? I think not. Reflect for a moment on the implications of the Arthur McAnally-Robert Downs paper, which documented a dramatic downward slide in the status of the ARL Library Director beginning around 1970. In attempting to explain this phenomenon, the authors highlighted an imposing array of external forces, which suddenly changed the relatively simple province of the gentle-

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man, scholar, and bookman into an increasingly complex managerial enterprise. In discussing the impact this transition had on the library director, they stressed, with something approaching fatalism, the overpowering nature of the external demands on the office. At the same time, they tended to ignore the fact that, as the fortunes of higher education turned downward, it produced among the directors of the nation's research libraries what might be called a "corporate paralysis in leadership". This, in turn, produced concern at the highest levels of university administration over the possibility that research library directors were bound to yesterday's solutions for today's and tomorrow's problems. I think this feeling on the part of institutional executives -- who were struggling with the same general problem all across the campus -- played a major role in creating the unprecendented rate of attrition among ARL directors beginning around 1970, which was one of Downs and McAnally's principal findings.

At the risk of dusting off old chestnuts, I would like to take a few moments to go into the historical background of this problem, as I think it is basic to understanding the leadership imperatives for ARL Directors inherent in L.C.'s decisions to freeze its catalogs, develop a fully-automated cataloging data base, and implement AACR II. As the decade of the 1970's opened, so did a new chapter in the history of higher education in America. Administrators and faculty, long accustomed to the problems associated with sustained and apparently perpetual growth, were suddenly faced with a new set of problems -- those associated with budget stabilization or actual decline. The downward turn was abrupt and traumatic,

and it shattered not only individual and institutional aspirations, but also the traditional alliances and commonly held assumptions which together produced what has become known as the "community of scholars". As the problem worsened, competition for program survival replaced competition for larger shares of expanding university budgets.

In this dramatically new situation, the library director found himself in an increasingly uncomfortable position. Traditionally a bookman and scholar, he was intellectually and emotionally tied to influential groups within the faculty who shared his interests and who, by nature, would oppose anything that appeared to tamper with the traditional research library. On the other hand, as an administrator responsible for a large budget, he came under increasing administrative pressure to make radical breaks with the past so that the library might continue providing adequate support for teaching and scholarship within the contraints of sustained budgetary restrictions. The adjustments required to provide the leadership sought by institutional executives were extremely difficult, and data indicates that a distressingly high number of ARL directors has either failed to make them or is perceived as having failed to make them.

At the root of the problem has been the ARL director's self-image. Generally speaking, the director has seen himself as a professional, whose primary managerial responsibility was acquiring and housing a research collection of national or international importance. Generally speaking, the academic community also saw this as his distinct and proper

role. Responding to a new array of managerial problems stemming from the convergence of computer technology, new concepts of library governance, and the end of large, yearly infusions of new money, required not only a reassessment of basic assumptions surrounding the director's position, but also the development of new managerial and technical skills which seemed to have only an indirect relationship to the world of scholarship, if indeed they had any at all. In addition, issues which now had to be brought before the academic community, unlike those of the recent past, became controversial and of a nature guaranteed to alienate the very scholars who had been the ARL library director's traditional sources of support.

For well over two decades, influential faculty members and ARL directors had operated in more or less close cooperation on matters of library development. This loose, but effective, alliance was forged out of a common interest in obtaining a larger share of growing university budgets to build research collections congruent with expanding graduate programs and expanding faculty aspirations. Although tensions were always present within the alliance -- mostly because of matters related to control over resources and operations -- the problems associated with growth were easily perceived as happy ones. Out of them could evolve something better for all concerned. As a matter of fact, the only painful substantive discussion between ARL directors and their faculty colleagues during the days of opulence probably surrounded the decision to adopt the Library of Congress classification system. With his perception of the library closely paralleling those of the faculty, and with every prospect of adequate funding for rapid progress

toward a collection of international distinction, the ARL director thus emerged in the 50's and 60's as a self-confident leader on campus, directing his part of the show uninhibited by significant internal or external conflicts.

Two things abruptly shattered this happy state of affairs. First of all, the campus power struggles associated with Vietnam generation students and their faculty allies resulted in a significant transfer of power to agencies outside of the university. This was true even in private institutions, where governing boards and powerful alumni interested themselves in matters which had previously been left to the administration. This development, along with the emerging financial crisis, soon produced a shift in power from the faculty to the university administration. Where, during the previous period of sustained growth, the initiative for planning had largely rested with the faculty, it shifted to the administration during a period characterized by stabilization or decline and an erosion of public confidence. Put another way, the burden of leadership for proposing the program adjustments necessitated both by budget problems and by demands for accountability from outside agencies fell, by default, on institutional executives for the simple reason that faculty were not about to reduce or abolish the empires they had built.

As they struggled with these problems, university administrators looked for imaginative and forceful leadership from the budget heads responsible to them. This was particularly true of the library, whose labor-intensive operations and relatively large total budget seemed to offer possibilities for a more

effective utilization of existing resources. The rate of attrition among ARL directors in recent years strongly suggests that this kind of leadership did not emerge on a scale commensurate with either the possibilities or the need. But, the reasons why it did not emerge go beyond the inability or unwillingness of individuals to adjust to a radically new set of circumstances.

The further we moved into the 1970's, the more evident it became that the library world was in a state of flux. Although there seemed to be some perception of future possibilities, the means of achieving these possibilities were by no means clear. If the leadership by ARL directors was hesitant, it was partly because the library community as a whole had not yet tested the potential of new technology or developed the philosophical and practical bases for effective networking and resource sharing on a national scale. Now, however, the initial breakthroughs in utilizing computer technology in libraries have been achieved. With L.C.'s decision to freeze its card catalogs and adopt AACR II, ambiguities about which direction ARL libraries should move should no longer exist. The only remaining question is whether the proper leadership will emerge in sufficient strength to reestablish the status once held by the ARL library director and, by implication, ARL itself.

For a number of reasons (and the technical problems are not the most important) rising to the challenge inherent in L.C.'s plans will not be a simple matter. On most campuses, it will cause at least a temporary rupture of the library-faculty alliance which has operated so effectively in the recent past.

Unlike campaigns for larger book budgets, improved staffing, and new buildings, many faculty will not perceive a proposal to freeze the card catalogs as something beneficial to their teaching and research. On the contrary, the opposite view is likely to prevail. Humanists -- those staunch allies of the days of growth -- are particularly likely to engage in emotional polemics at faculty meetings and to send memorials to presidents and provosts which begin, "The faculty views with alarm...." Some will charge that a proposal of this kind could only come from illiterate technocrats and insensitive budget cutters who would dehumanize the library and victimize its users for the sake of a few thousand dollars.

These views will not be without vocal sympathizers on the library staff. Universities have often been described as the peaceful groves of academe, particularly by those with an incurable sense of romanticism, but, when someone suggests pruning some of the old trees in order for new shoots to grow, it can be, as Professor Charles S. Steinberg so eloquently put it in a recent piece in the New York Times, "... A jungle more terrifying than the real jungle, where predators kill out of natural need for food...," instead of being motivated by "...an instinct for the jugular that is driven by a deadly combination of ruthless ambition and sheer malevolent sadistic pleasure."[1]

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[1]Charles S. Steinberg, "The Life Of the Mind," New York Times, Vol. CXXVIII, p. 35, December 12, 1977.

In case you think that Professor Steinberg's view could be prejudiced by the fact that, prior to his joining the faculty of Hunter College in 1972, he had been Vice-president of CBS-TV for 16 years, it might be worth recalling the experience of the famous scholar and diplomat Wilhelm Von Humboldt. Early in the 19th century, the Prussian government commissioned Von Humboldt to found the University of Berlin, which subsequently became the prototype of the modern research-oriented University. However, he resigned his position at the University only a few weeks after classes had opened, complaining that scholars constitute, "The most unruly and least easily satisfied class of human beings--with their eternally conflicting interests, their jealousy, their envy, their lust for power, their one-sided views, in which each one believes that his discipline alone deserves support and advancement." In fact, he confided to his wife, being the rector of a university is "worse than trying to manage a troupe of comedians."[2]

Because of these adverse initial reactions, successfully leading the campus community toward effective utilization of a fully automated cataloging data base, transcending the holdings of an individual campus, will require a commitment as intense as the one which led us to build the monumental research collections that are the great legacy of the three decades following World War II. This commitment will have to be evident to all concerned, both inside the

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[2]Quoted by Theodore Ziolkowski in "Yesterday's Model for Today's University," The Chronicle of Higher Education, April 24, 1978, p. 44

library and out, through close personal involvement at all stages of the planning and actual transition to whatever the successor to our catalogs may be.

This means that the library director must personally shoulder the responsibility for bringing the issue in all of its ramifications before the campus community. He or she must make every effort to keep the discussions focused on real issues rather than emotions. He or she must hold forth a vision to the academic community in which properly used technology will eventually enhance the library's capabilities for supporting teaching and research and, consequently, the traditional humanistic role of the university. This calls for a missionary effort to convince the community that modern technology can work on the side of the angels as well as the side of the devil -- if only the angels will see the possibilities and perservere through a period of development. I chose the metaphor purposely, as a reflection of the situation on the University of Oregon campus, which, for the past few weeks, has resembled an allegorical play portraying the conflict of good and evil. This has not resulted mainly from our plans to introduce COM subject catalogs on July 1, but from the suggestion that the university may have to live with an off-campus storage facility in four or five years, unless a dramatic change occurs in the politics affecting higher education. In the course of the discussions generated by this suggestion, irate humanists have expressed strong opinions regarding the innate malevolency of modern technology toward the needs of scholars and teachers.

The personal leadership of the library director in the transition to a fully automated cataloging data

base is probably even more important within the library itself than within the larger campus community. It is a responsibility that cannot be delegated, nor can it manifest itself only through memoranda, position papers, or policy statements. A project of this importance requires circumventing the library's inevitable layers of bureaucracy and establishing direct, personal communication with those who will be asked to implement the new system and live with its products.

Obviously, I do not mean to infer that the dean or director should become enmeshed in the mechanics of bringing up whatever system is decided upon. In most cases, he or she simply does not have the depth of technical knowledge to participate at this level, even if it were desirable -- which it is not. But, the director must personally undertake to communicate at least the following to those charged with creating a technically efficient alternative to the traditional card catalog:

(1) The reasons for the impending change, framed in the broadest possible perspectives.

(2) Assurance that the new system will, in the long run, enhance the library's support for teaching and research.

(3) Assurance that sufficient funds will be available to bring the new system into full operation.

(4) Assurances that, although there will inevitably be some dislocations, some new assignments of responsibility,

and, in some cases, internal transfers of personnel, these can be handled with a minimum of aggravation for the individuals involved.

(5) Assurances that, if the library must help ameliorate university budget problems by returning some of the savings accrued through fully automating the cataloging process, this can be handled through the normal process of attrition rather than by discharging employees.

(6) Finally, assurances that the director accepts full responsibility for the program through all stages of the transition, including the inevitable problems, delays, and aggravations that will occur before the new system is running smoothly.

The demands on the library director's time during the transition should not be underestimated. Radical change simply cannot be accomplished without anxiety and resentment, both within the library and elsewhere in the campus community. Nor can a venting of emotions be avoided before a rational discussion of real issues and alternatives begins.

In spite of this, the picture is by no means gloomy, and there are rewards as well as headaches. First of all, it should be recognized that, on most campuses, advocating a program which both makes economic sense and promises major short and long-range benefits for teaching and research (such as multi-point bibliographic access to collections, special catalogs tailored to individual program needs, and rapid bibliographic access to resources in other

libraries) will win solid support from the university administration. Furthermore, the prospect is good that, from the support generated by such a proposal, the library and the university administration will eventually develop a working alliance as effective in enhancing library support for teaching and research as the old alliance between the library and the faculty had been. I would like to illustrate this point with a brief account of the events that led to the first phase of freezing the card catalogs at the University of Oregon on July 1, 1977.

Serious planning for automation began in April, 1975. By the end of the summer, we were building the cataloging data base, with all current cataloging going into the computer (including works in non-Roman alphabets, which were entered in transliterated, short-title form). A little over a year later, at the start of Fall term 1976 the first microfiche catalogs appeared in the Education/Psychology, Social Sciences, and Humanities Divisions of the Main Library, and in the three Branch Libraries, Science, Law and Art, and Architecture and Allied Arts. These catalogs, representing the library's entire holdings, consisted of three parts: a basic catalog, created by photographic techniques, and yearly and bi-monthly cumulative COM supplements. Several months ago, we dropped the bi-weekly supplement and went to a monthly cycle. At the same time, a delivery service, based on the new catalogs and using dedicated phone lines, was set up between the branches and the main library. Recently, the College of Music became part of this intracampus network, when a microfiche catalog and a dedicated telephone were installed in its administrative office. I should mention that the three divisional

libraries, which have existed since 1953, never had had divisional catalogs. Consequently, the new microfiche catalogs opened up distinct new service possibilities.

The installation of the microfiche catalogs signaled the beginning of discussions within the library on the "why", "how", and "when" of freezing the card catalogs. The "why" was easy, as it simply did not make sense to run two parallel systems, particularly in light of the university's precarious budgetary situation. The "how" and "when", however, were difficult, as both were extremely sensitive political issues. Interestingly, the Law Library chose to be the guinea pig. The Law Collection had never been classified, but, when a new Law Librarian arrived in July, 1976, he ended a long period of procrastination by deciding to adopt L.C.'s "K" schedule. Classification of the collection began almost immediately, with all records being converted into machine readable form. We set a goal of producing the new Law Library Catalog by the opening of Fall term 1977, and this catalog was to be on COM only. There would be no "turnkey" card catalog produced.

A report on the library's discussions about the future of the card catalog was presented at a meeting of the University Library Committee in October of 1976, stressing the library's technical ability to freeze the subject card catalogs and start new ones on COM, the strong economic arguments for moving in this direction, and the ultimate advantages to students and faculty of a fully-automated data base. To say the least, this and several subsequent meetings were lively, with most of the debate focusing on whether

the faculty could or would use catalogs on microfiche. At the time, the Committee had in hand several irate protests from colleagues concerning the recent replacement of reserve book room computer printouts with lists on COM. The majority of these letters had been solicited by a frustrated professor after his first experience with the new system and his refusal to have anything to do with it thereafter. Their effect was to add a distinct emotional flavor to the Committee's discussions on the future of the card catalog.

While the future of the card catalog was being discussed with the University Library Committee, the deadline for decisions on how to meet the university's anticipated $1,000,000 budget deficit rapidly approached. At a meeting of the Council of Deans in January 1977, the Provost asked each Dean to submit the amount he or she could contribute toward offsetting the deficit and to specify from what part of the budget the money was to come. I reported that the Library could return to the university roughly 50%[3]

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[3]Net savings of automating the cataloging process and closing the subject catalogs amounted to approximately $84,000 annually. Of this, $42,500 was returned to the University out of the library's salary budget including fringe benefits. The large savings achieved -- approximately $30,000 annually -- by closing the subject catalogs was in large part due to the automatic subject control program offered by Blackwell North America.

of the yearly savings accrued from automating the cataloging process and would willingly do so if the administration would, in turn, agree to support the freezing of all subject catalogs in the Main and Branch Libraries on July 1, 1977. The offer was accepted.

At its February meeting, the University Library Committee was informed of the need to cut the library's budget, at which time I took the position that freezing the subject catalogs provided a way to achieve the cut without dipping into the book budget, reducing staff, or limiting hours of service. After three long and heated meetings, the Committee reluctantly agreed that this course was, on balance, preferable to the other alternatives available. The original target date for freezing the subject catalogs had to be extended to the opening of Fall term 1977, but, by that time, filing in the subject catalogs had ceased. In addition, the first edition of the Law Library's new COM Catalog had been produced, and the card catalog removed from the Art, Architecture, and Allied Arts Library. Thus, the question of "how" and "when" we would begin to freeze our card catalogs became a matter of exploiting the opportunities offered by a major university budget crisis. The result was a quid pro quo between the Library and the University administration, which, in terms of all of the tradeoffs, was in the best long and short term interests of the entire academic community. This experience suggests that freezing the card catalog will be easier on campuses beset by serious budget problems than on campuses where this condition does not exist.

It is important to note that, even though the University Library Committee ultimately placed its imprimatur on the decision to freeze the subject catalogs, a feeling remains scattered both within the Committee itself and throughout the faculty that faculty consultation was ex post facto, that the catalogs would have been frozen in spite of any objections they might have had to offer. Underlying the inevitable pockets of resentment which have resulted, particularly among the humanities faculty, is the strong tradition of faculty governance at the University of Oregon which originates in the University's original charter. This tradition appears to be endangered when the university administration, or any unit within it, responds to reality by taking the lead in defining the problems posed by chronic budget stringency, analyzing the alternatives for addressing them, and forcefully advocating a specific course of action. This immediately puts the faculty in a defensive position, as it has to react to the administration's initiative rather than the other way around (which had generally been the case during the late and lamented period of sustained growth). If the administration has done its homework, as is usually the case, because the administration has the support staff to do it, the faculty is left with the feeling that it has been presented with a Hobson's choice. That is, none of the proposed alternatives is really acceptable. Instead of governing the faculty perceives itself as being governed by forces and individuals beyond its control. It is this situation -- even more than the faculty's inherent conservativism -- that makes responding to L.C.'s initiative a risky, and in most cases, a tension ridden process.

In the final analysis, however, the implications for the ARL library director of L.C.'s decision to freeze its card catalogs transcend the bear garden politics of the individual campus. They are to be found in the leadership role he or she must play in creating a national and perhaps international network of research libraries, which will provide scholars access to resources in excess of their most feverish intellectual aspirations. The long journey begins with relegating the venerable card catalog to its place of honor in the annals of library history. What awaits us at the end is, figuratively and literally, Alexandria reborn -- a global library, whose constituent elements will be linked by increasingly sophisticated and powerful computer technology, whose collections will be truly ecumenical, and whose service area will be the ecumenae itself, the world as we know it.